MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/ 2023 SESSION (TERM ID 2215)

DSD 5411 – SYSTEMS ANALYSIS AND DESIGN

(DIT 1415 Only)

20 FEBRUARY 2023
2.30 p.m. – 4.30 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 5 pages.
2. There are **TWO (2)** sections:
   - Section A: Multiple Choice Questions (10 Marks)
   - Section B: Structured Questions (30 Marks)
3. Answer **ALL** questions.
4. Please write your answers in the **Answer Booklet** provided.

SECTION A: MULTIPLE CHOICE QUESTIONS (10 MARKS)

Instructions: Choose the correct answer. Write your answer on the provided Answer Sheet.

1. Which of the following is **NOT** a contemporary methodology used to analyze, develop, and maintain information systems?

   A. Scrum
   B. Relational Unified Process (RUP)
   C. Extreme Programming
   D. Waterfall SDLC

2. Cloud computing is the provision of computing resources over the internet. Which of the following are the benefits of cloud computing?

   I. Lower cost than internal development
   II. Frees company of internal IT staff requirements
   III. Regulatory compliance
   IV. Faster access to application than via internal development

   A. I and II
   B. I, II and III
   C. I, II and IV
   D. II, III and IV

3. An organic-healthy food company is likely to apply _____ as its competitive strategy.

   A. niche market
   B. lower cost production
   C. product differentiation
   D. All of the above.

4. The primary deliverable from the first phase of planning is _____.

   A. the economic feasibility study
   B. schedule of specific IS development projects
   C. Baseline Project Plan (BPP)
   D. Project Scope Statement (PSS)

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Question 5 and **6** are based on the following description:

Assume a proposed system has a useful life of 3 years. Given its Net Present Value (NPV) of all benefits is RM 100,319. Its recurring cost is RM 12,300 per year, one-time costs of RM 32,500 and a discount rate of 12%.

5. Calculate the NPV of all costs. Choose the correct answer.

A. 29, 542.00
B. 36, 900.00
C. 62, 042.00
D. 69, 400.00

6. Calculate the overall NPV. Choose the correct answer.

A. 38, 277.00
B. – 38, 277.00
C. 30, 919.00
D. -30, 919.00

Question 7 to 8 are based on the following description.

A member of a fitness club can make many payments of fee. The payment record saves the descriptions of the transaction. The types of the fee are such as membership fee, monthly fee, renewal fee and others.

7. Which of the following are the entities that can be derived from the situation above?

I. Member
II. Fee
III. Payment
IV. Record

A. I and II
B. I, II and III
C. I, II and IV
D. All the above.

Continued...

8. Which of the following are good choices for a primary key of a member in the membership system?

   I. Member mobile phone number
   II. Member ID (a unique number generated for the member)
   III. Member MyKad number
   IV. Member passport number

   A. I and II
   B. II only
   C. II, III and IV
   D. All of the above.

9. _____ installation is information system at one site and using the experience to decide if and how the new system should be deployed throughout the organization.

   A. Parallel
   B. Single-location
   C. Direct
   D. Phased

10. Which of the following request of maintenance is considered as top priority?

   A. Corrective maintenance
   B. Adaptive maintenance
   C. Perfective maintenance
   D. Preventative maintenance

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SECTION B: STRUCTURED QUESTIONS (30 MARKS)

Instructions: Answer ALL questions. Each question carries 15 marks.

QUESTION 1 [15 MARKS]

A new hair salon in Ayer Keroh wants to develop a computerized system to handle its client's appointment. Below is the first draft of the system requirements:

- Client ***books*** an appointment by key-in the appointment details such as client name, mobile number, preferred hairstylist, date, time and service. The appointment details are then stored in the database.
- The system then automatically ***checks*** with the hairstylist schedule record. If it is available, the system will ***update*** the appointment to confirmed status. The appointment status is updated in the records of appointment and the hairstylist schedule.
- If the preferred hairstylist is unavailable, the system provides the alternative appointment by ***searching*** for other available time slot from the hairstylist schedule and also will propose other hairstylist who are available on the picked time and date. Client then ***select and confirm*** the reservation from the list. The appointment status is updated in the hairstylist schedule.
- A SMS notification of confirmed appointment ***will be sent*** to the client and the hairstylist. Mobile number of client and hairstylist are retrieved from the appointment and hairstylist schedule records respectively.
- Hairstylist can ***update*** the client salon service(s) by key-in the service details. The data are kept in the client salon service record. The client can ***view*** the service details too.
- The system can ***generate*** receipt for the client after each visit and payment based on the service he/she received.

Based on the scenario above:

a. Draw a Context Diagram for the system. (5 Marks)

b. Draw a Data Flow Diagram (level 0) for the application with general processes, data stores, date flows and sources/sinks. (10 Marks)

[TOTAL 15 MARKS]

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QUESTION 2 [15 MARKS]

a) Form is the most common interaction method between users and a system. Based on a sample web-based registration form shown in Figure A, provide **FIVE (5)** feedback on the form based on the guideline of interface design and form, such as structuring data entry fields, validation, highlighting and so on. (5 Marks)

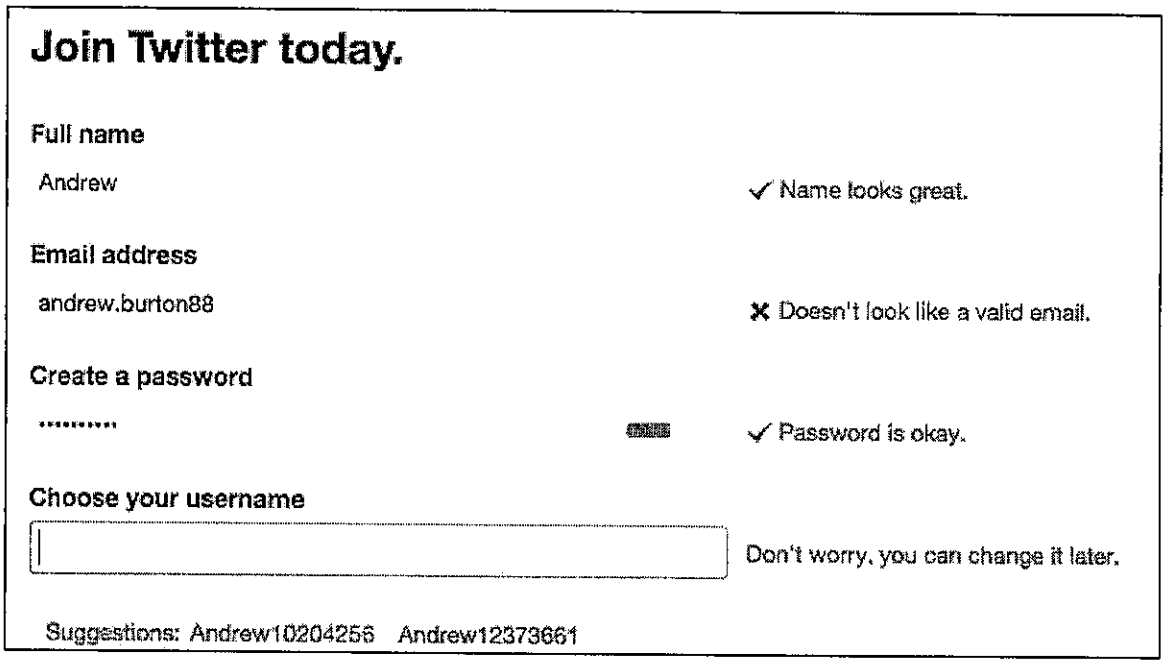

Figure A: Sample of web-based registration form (Source: Google Images)

b) Describe any **TWO (2)** tests that are performed during alpha testing. Provide your explanation with example. (4 Marks)

c) Provide **TWO (2)** ways to support users during the implementation phase. (2 Marks)

d) Provide **FOUR (4)** factors that lead to system implementation failure. (4 Marks)

[TOTAL 15 MARKS]

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